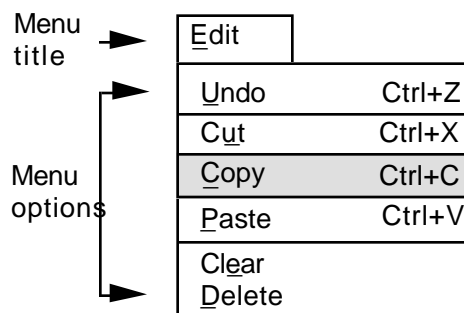


## 5. Menu

### 5.1 Pull-Down Menus

#### 5.1.1 Appearance

A pull-down menu, shown in figure 5-1, consists of a title and a set of options from which users choose. A pull-down menu is accessed from a menu bar displayed below the title bar at the top of a window.



**Figure 5-1. Example pull-down menu in MS Windows.**

A menu title describes the category or type of options presented in the menu. The title is different from the other menu titles in the menu bar and does not appear as an option in the menu itself. The title uses headline-style capitalization and is a single word whenever possible. The title includes a mnemonic but does not contain numbers and is not followed by an ellipsis or a right-pointing arrow.

A pull-down menu is displayed when a menu title is selected. The menu includes options that perform actions, display a window (to request more information from users) or submenu, or specify a setting. The design of pull-down menu options is addressed in section 5.6.

#### 5.1.2 Behavior

Two methods are available for activating a pull-down menu option. In the first method, pressing BLeft on a menu title displays the menu; dragging the pointer to a menu option and releasing BLeft activates it and dismisses the menu. Dragging the pointer off the menu and releasing BLeft dismisses the menu without activating an option. In the second method, clicking BLeft on a menu title displays the menu; clicking BLeft on a menu option activates it and dismisses the menu. Moving the pointer off the menu and clicking BLeft dismisses the menu without activating an option. Clicking BLeft on the title of the menu a second time also dismisses the menu without activating an option.

Motif Only: Both methods for activating a menu option can also be performed using BRight.

F10 (and ALT in MS Windows) activates the menu bar, with focus on the first menu title. LEFT and RIGHT navigate between menu titles, with wrapping from the last to the first title.

MS Windows Only: When the menu bar in a parent application window has focus, LEFT and RIGHT navigate between menu titles and the title bar icon, with wrapping from the last menu title to the icon.

When a menu bar has focus, F10 (and ALT in MS Windows) deactivates it and returns focus to the object that previously had it.

When a menu title has focus, DOWN and RETURN (and SPACE in Motif) display the menu. When the menu is displayed, UP and DOWN navigate between menu options, with wrapping from the bottom to the top option; RETURN (and SPACE in Motif) activates an option and dismisses the menu.

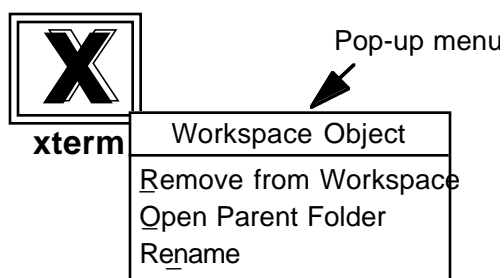
Motif Only: When a menu is displayed, ESC dismisses the menu without activating an option, deactivates the menu bar, and returns focus to the object that previously had it.

MS Windows Only: When a menu is displayed, ESC dismisses the menu without activating an option; the menu bar remains activated, with focus on the title of the menu. ESC a second time deactivates the menu bar and returns focus to the object that previously had it.

## 5.2 Pop-Up Menus

### 5.2.1 Appearance

A pop-up menu, shown in figure 5-2, contains options that provide redundant access to frequently executed actions in a window. For example, a pop-up menu with edit commands can be provided for a text box in a window so users do not have to move the pointer between the text box and an Edit pull-down menu. Similarly, a pop-up menu containing frequently executed actions can be available in a window so users do not have to move the pointer to and from the action area of the window.



**Figure 5-2. Example pop-up menu in Motif.**

**Motif Only:** A pop-up menu includes a title describing the function performed by the menu or the object to which the menu relates. The title is centered at the top of the menu and separated from the first option by a separator line. The title uses headline-style capitalization and does not include a mnemonic, an ellipsis, or a right-pointing arrow.

A pop-up menu contains options that apply to the object under the pointer and its current context. If a pop-up menu is displayed for an unselected object, the menu contents apply to that object only. If a pop-up menu is displayed for a selected object, the menu contents apply to it and any other selected object(s). When the pointing device is used to display a pop-up menu, the left corner of the menu is positioned under the hotspot of the pointer, and the menu contents relate to the object under the pointer. When the keyboard is used to display a pop-up menu, the menu is placed to the right of the object, and the menu contents relate to the object that has focus. The design of pop-up menu options is addressed in section 5.6.

### 5.2.2 Behavior

**Motif Only:** Pressing BRight on an object displays the pop-up menu; dragging the pointer to an option and releasing BRight activates it and dismisses the menu. Dragging the pointer off the menu and releasing BRight dismisses the menu without activating an option.

Clicking BRight on an object displays the pop-up menu; clicking BLeft or BRight on an option activates it and dismisses the menu. Moving the pointer off the menu and clicking BLeft dismisses the menu without activating an option.

Motif Only: Moving the pointer off the menu and clicking BRight also dismisses the menu without activating an option. Clicking BRight on an unselected object displays its pop-up menu but does not select the object.

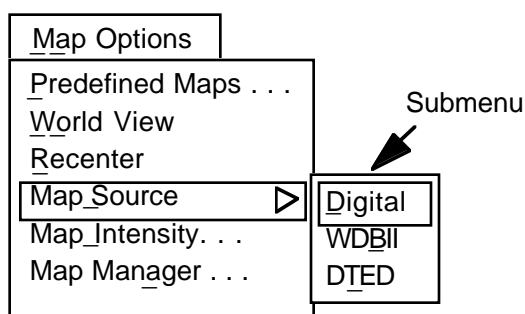
MS Windows Only: Clicking BRight on an unselected object displays its pop-up menu and selects the object.

SHIFT+F10 displays the pop-up menu for the object with focus. When the menu is displayed, UP and DOWN navigate between menu options, with wrapping from the bottom to the top option; RETURN (and SPACE in Motif) activates an option and dismisses the menu. When a pop-up menu is displayed, ESC dismisses the menu without activating an option and returns focus to the object that previously had it.

## 5.3 Submenus

### 5.3.1 Appearance

A submenu, shown in figure 5-3, presents groups of related actions hierarchically. If a submenu is displayed, it is positioned to the right of the parent menu or above, below, or to the left if space to the right is limited. The first option in the submenu is aligned with the right-pointing arrow in the parent option for the submenu. A submenu does not repeat the parent option as the first option in the submenu. The design of submenu options is addressed in section 5.6.



**Figure 5-3. Example submenu in Motif.**

### 5.3.2 Behavior

Two methods are available for activating a submenu option. In the first method, pressing BLeft on a parent option displays the submenu; dragging the pointer to a submenu option and releasing BLeft activates it and dismisses the parent menu and submenu. Dragging the pointer off the submenu and releasing BLeft dismisses the parent menu and submenu without activating an option. In the second method, clicking BLeft on a parent option displays the submenu; clicking BLeft on a submenu option activates it and dismisses the parent menu and submenu. Moving the pointer off the submenu and clicking BLeft dismisses the parent menu and submenu without activating an option.

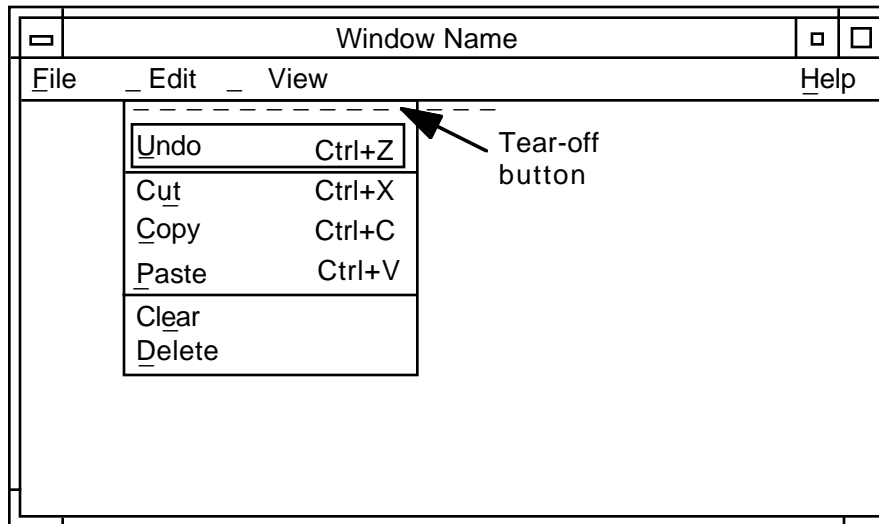
Motif Only: Both methods for activating a menu option can also be performed using BRight.

When a parent option has focus, RIGHT and RETURN (and SPACE in Motif) display the submenu. When the submenu is displayed, UP and DOWN navigate between menu options, with wrapping from the bottom to the top option; RETURN (and SPACE in Motif) activates an option and dismisses the parent menu and submenu. When a submenu is displayed, LEFT and ESC dismiss the submenu without activating an option and return focus to the parent option.

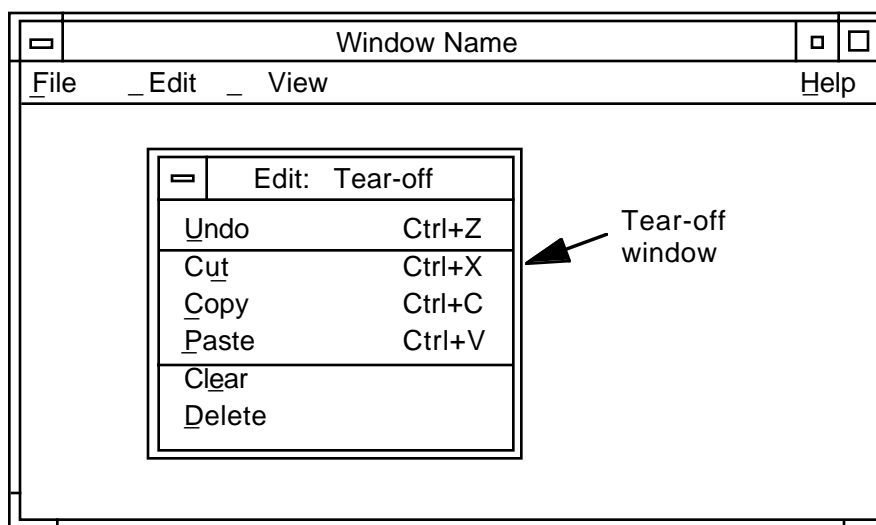
## 5.4 Tear-Off Menus (Motif Only)

### 5.4.1 Appearance

A pull-down menu, pop-up menu, or submenu provides a tear-off capability if users need to select repeatedly from the menu. A menu that can be torn off contains a tear-off button with a dashed-line graphic that is the first option in the menu, as shown in figure 5-4. When users activate the tear-off button, the menu options are displayed in a menu window, as shown in figure 5-5. The window title is the same as the title of the associated menu; e.g. when an Edit menu is torn off, the title of the menu window is “Edit: Tear-off.” The options in the menu window perform the same functions, are in the same order, and have the same availability as the options in the original menu, except that the tear-off button is not displayed in the window.



**Figure 5-4. Example tear-off menu in Motif.**



**Figure 5-5. Example menu window in Motif.**

### 5.4.2 Behavior

Clicking BLeft or BRight on a tear-off button activates the button, dismisses the menu, displays a menu window at the menu location, and assigns focus to the first menu option in the window. Clicking BLeft or BRight on an option in the menu window activates it; the window remains displayed so that the menu options remain available for additional selections.

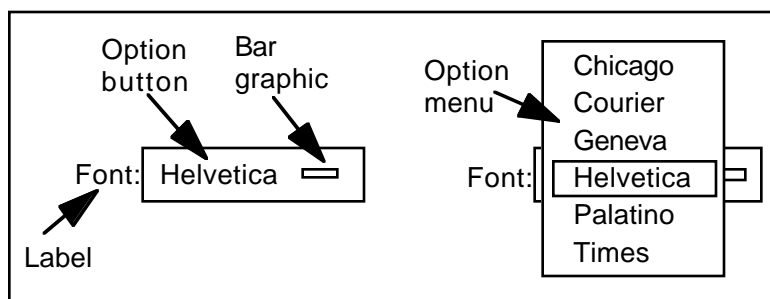
A menu window is a modeless child window that is parented by the window containing the tear-off menu. The menu window can be moved but not minimized or maximized. A tear-off menu can be displayed while the associated menu window is open, and options can be activated from either the menu or the window. If the tear-off option in the menu is activated while the associated menu window is open, the window is closed and replaced with a new instance of the window. The menu window remains displayed until closed (e.g., by double clicking BLeft on the Control menu button).

When a tear-off menu is displayed, UP and DOWN navigate to the tear-off button in the menu; RETURN and SPACE activate the tear-off button, dismiss the menu, and display a menu window at the menu location. When a menu window has focus, UP and DOWN navigate between menu options, with wrapping from the bottom to the top option; RETURN and SPACE activate an option in the window. When a menu window has focus, ESC closes the window.

## 5.5 Option Menus (Motif Only)

### 5.5.1 Appearance

An option menu, shown in figure 5-6, is used to select from a set of mutually exclusive options. An application includes a label with the option menu that describes its contents. The label is placed to the left of or above the option button, uses headline-style capitalization, and is followed by a colon. If the label is placed above an option button, it should be aligned with the left edge of the button. The label is grayed out if the option menu is unavailable for selection. If an option in the menu is unavailable for selection, it is omitted from the menu (rather than displayed as unavailable).



**Figure 5-6. Example option menu in Motif.**

An option menu button displays the menu option that is currently selected and includes a bar graphic. The button is wide enough to display the longest menu option and the bar graphic; the graphic does not obscure any text in the button. An option menu is displayed when the option button is activated. The menu contains no less than two or more than 12 options and is positioned so it does not obscure the graphic in the option button. The menu does not include a separator or any options that are settings (i.e., action toggles) and does not have any submenus. The options in the menu use headline-style capitalization and do not include shortcut keys.

### 5.5.2 Behavior

Two methods are available for activating an option in an option menu. In the first method, pressing BLeft on an option button displays the menu; dragging the pointer to an option and releasing BLeft activates it, dismisses the menu, and displays the option in the button. Dragging the pointer off the menu and releasing BLeft dismisses the menu without activating an option. In the second method, clicking BLeft on an option button displays the menu; clicking BLeft on an option activates it, dismisses the menu, and displays the option in the button. Moving the pointer off the menu and clicking BLeft dismisses the menu without activating an option. Both methods for activating a menu option can also be performed using BRight. In both cases, when an option is activated, no other action is taken.

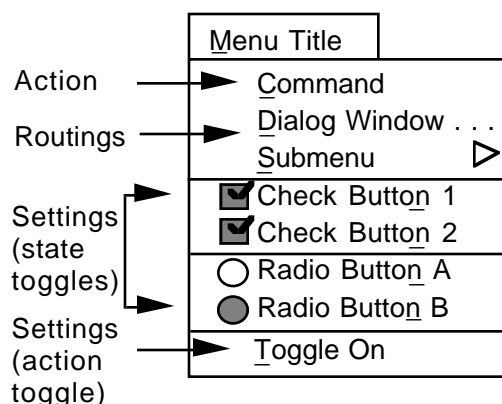


When the option button has focus, SPACE displays the menu; the currently selected option is highlighted. When an option menu is displayed, UP and DOWN navigate between menu options, with wrapping between the last and first options; RETURN and SPACE activate an option, dismiss the menu, and display the option in the button. When an option menu is displayed, ESC dismisses the menu without selecting an option.

## 5.6 Menu Design

### 5.6.1 Types of Menu Options

Menu options can be actions that are executed immediately, routings that display a window or submenu, or settings that define parameters or specify a state. Figure 5-7 illustrates these types of options. A routing option that requires additional information from the user before it can be completed is followed by an ellipsis (i.e., “. . .”); there are no spaces between the label and ellipsis or between the periods in the ellipsis. When a routing option causes a dialog window to be displayed, the option should remain available (i.e., not be dimmed) while the window is open. A routing option that displays a submenu is followed by a right-pointing arrow; the arrow is positioned at the right edge of the menu. An option that is a setting can be an action toggle (e.g., turn on/turn off) or a state toggle (e.g., select a font size).

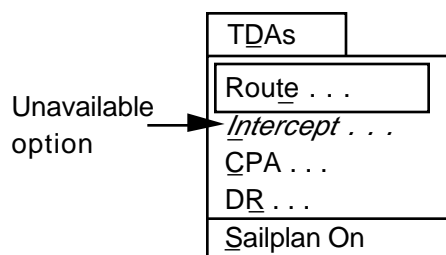


**Figure 5-7. Examples of menu option types in Motif.**

Options that are state toggles can be exclusive or nonexclusive settings. Exclusive settings are represented by radio buttons, nonexclusive settings by check boxes (see sections 6.2 and 6.3). When a toggle option is selected, the state is applied immediately (e.g., does not require activation of an OK or Apply push button). When the state of an exclusive setting is determinate (i.e., is either on or off), a dot is placed to the left of the option or its indicator is filled (if it is selected), or the indicator is empty (if it is not selected). When the state of a nonexclusive setting is determinate, a check graphic is placed in the indicator or to the left of the option (if it is selected), or the indicator is empty (if it is not selected). When the state of an exclusive or nonexclusive setting is indeterminate (i.e., has a mixed-value state), the graphic for the option is empty, shaded, or removed.

A menu option that is never available to users (e.g., system administrator commands) is not included in a menu. An option that is only temporarily unavailable is included in the menu but dimmed (as in figure 5-8) to indicate that it cannot be selected. While the wording of options may change (e.g., when an option is an action toggle), options are not

added to or deleted from a menu to indicate their availability.<sup>1</sup> The parent option for a submenu is shown as available and activates the submenu even if all of the options in the submenu are unavailable.



**Figure 5-8. Example of an unavailable menu option in Motif.**

If an option is designated as the default in a pop-up menu, it is displayed in a bold font and is not a destructive action (e.g., Exit, Delete). The default option performs the default action associated with an object; for example, if the default transfer operation for an object is to copy the object at a drop site, then the default option in the pop-up menu for the object is Copy.

### 5.6.2 Format and Wording

A menu is wide enough to display the widest option and a shortcut key (if one is available) on a single line. Long menu options are accommodated by making the menu wider or by replacing portions of the text with an ellipsis. The text in a menu option is preceded by an icon only if the icon is used elsewhere in an application (e.g., in a toolbar) to represent the action performed by the option. All of the options in a menu use headline-style capitalization and are left-aligned based on their text labels, with sufficient space preceding the options to display any graphics (e.g., toolbar icons, dot or check indicators) included in the menu (see figure 5-6).

An application uses the vocabulary in appendix C when the actions listed are included in menu options. If application-specific menu options are created, the following guidelines apply:

- A menu option should be phrased to describe an action and/or object on which the action is performed. For example, additions to an Edit pull-down menu might be other verbs describing application-specific edit actions and/or verb/noun phrases describing an action/object(s). Similarly, an application might provide a pull-down menu that performs the same action on different objects; in this case, the menu title would describe the action (e.g., Insert), with individual menu options identifying the objects to which the action can be applied (e.g., Page Break, Footnote, File, Picture).

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<sup>1</sup> The inclusion of unavailable options in a menu is consistent with Motif and MS Windows but not with MIL-STD-1472F.

If the menu performs different actions on the same object, the menu title would be the name of the object, with the menu options identifying the actions. If all of the actions apply to the same object, the name of the object should not be repeated in each option; for example, the options in a File menu are New, Open, and Save, not New File, Open File, and Save File.

- A menu option should be worded as a command to the application (rather than as a question to the user), in the vocabulary of the user.
- If desired, an application can use mouse-over feedback to provide supplementary information about an option in the status bar of the window; as the pointer is placed on an option, a description of the action executed by the option is displayed in the status bar.

Options that are action toggles are worded to reflect the action that is implemented when the option is activated. The following guidelines apply to wording of action toggles:

- The wording should be semantically congruent with natural usage; for example, if one toggle is worded “Move Object Up,” the other toggle is “Move Object Down,” not “Move Object Back.”
- When users activate an action toggle (e.g., Turn On), the wording of the option in the menu should change (e.g., Turn Off) to reflect the action that will be implemented when the action is executed again.
- Only one of the action toggles should appear in the menu at any time.
- If a multi-level Undo capability (see section 3.6.6) is provided, the wording of the option should change dynamically to reflect the action that can be undone. For example, if the most recently executed option is Cut, the option should be worded “Undo Cut.” If the action cannot be undone or redone, the option should be worded “Can’t Undo” or “Can’t Redo” and should be grayed out (i.e., unavailable for selection).
- Options that are state toggles should be worded to describe the state being set (e.g., a series of font names).
- When users activate a state toggle, its select state should change but the wording of the option remains the same.

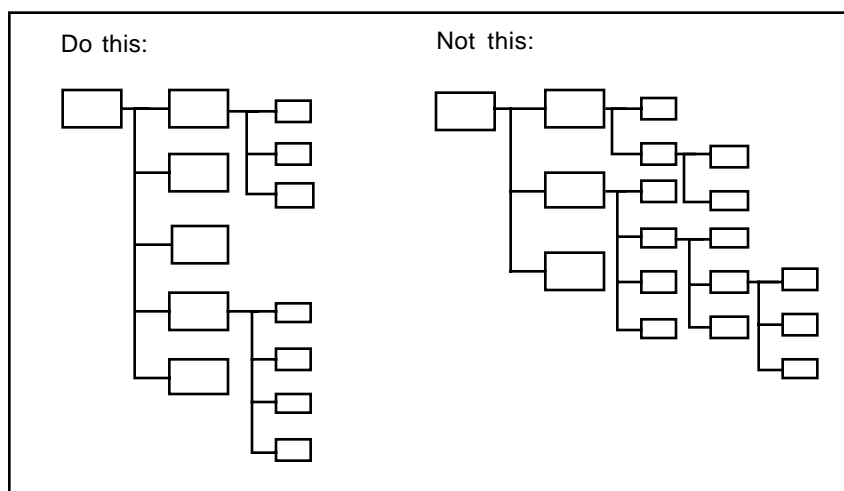
### **5.6.3 Grouping into Menus and Submenus**

A pull-down or pop-up menu contains at least two options. Menu options that are related are grouped together and delimited by a separator. The following guidelines apply to menu option grouping:

- The options should be organized into groups based on function. If the options cannot be organized by function, they should be ordered by frequency of usage, with the most frequently executed at the top of the menu and least frequently executed at the bottom. If an organization based on function or frequency of use is inappropriate, then the options should be ordered alphabetically or in numerical order.
- Menu options that perform opposing actions (e.g., Save and Delete) should not be placed adjacent to each other in order to reduce the likelihood of users inadvertently selecting an incorrect action.
- If the same options are included in different menus, the options should be ordered in a consistent manner in each menu.
- If a group of radio buttons or check boxes is included in a menu, the group should be delimited by separators to distinguish them from other options in the menu.

If submenus are included in a pull-down menu, they are limited to two levels below the parent menu and organized as shown in figure 5-9; if the number of submenus will exceed two levels, new menus are created or a dialog window is used. If submenus are included in a pop-up menu, they are limited to one level below the parent menu. A submenu contains at least three options; if there are only two options, they are placed in the parent menu rather than in a separate submenu. A submenu contains options that modify or are related to the parent menu option. The following guidelines apply to submenu options:

- If an option is executed frequently, it should be placed in the parent menu rather than in a submenu.
- If a submenu contains a set of actions, the label for the parent option should be the object on which the actions can be performed.



**Figure 5-9. Organization of options in submenus.**

### **5.6.4 Mnemonics and Shortcut Keys**

An application provides mnemonics for the options in pull-down and pop-up menus. The characters selected as mnemonics in a menu bar and in a menu are unique, but the same character can be used as a mnemonic in different menus. The following guidelines apply to mnemonics in menus:

- A menu title or option should have the same mnemonic whenever it appears in a menu.
- Mnemonics should be selected to produce minimal interference with each other. For example, the same character should not be assigned as the mnemonic for options performing opposite or contradictory actions in different menus (e.g., C is not used as the mnemonic for Continue in one menu and Close in another).
- If a menu option changes based on the state of an object (e.g., Show Details, Hide Details), the same mnemonic should be used in both versions of the option so users do not have to know the state of the object before they type the mnemonic.

An application provides shortcut keys for the frequently executed options in a pull-down menu (e.g., those options that are also visible as toolbar buttons). Shortcut keys are used to provide redundant access to actions that are available as menu options and are not the sole method for accessing any actions in an application. Shortcut keys do not need to be included in a pop-up menu since a shortcut can be activated based on its presence in a pull-down menu, whether or not it appears in a pop-up menu. If an application chooses to display a shortcut key in a pop-up menu option, it is the same as the one in the corresponding pull-down menu option. If an application provides shortcut keys, they are displayed as part of the option label, right-aligned in a column to the right of the option, and identify the keys to be pressed, separated by a plus sign. The following guidelines apply to shortcuts in menus:

- A menu option should have the same shortcut key whenever it appears in a menu.
- The characters used in the mnemonic and shortcut key for a menu option should be selected to be coordinate with each other. For example, if S is the mnemonic for Save, Ctrl+S is used as the shortcut key.

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